

## VI ABSTRACT

Improved insemination systems particularly adapted to use for sex-selected sperm sorting include systems which achieve superovulation and then multiple embryo production with sexed embryos. These systems combine with other techniques, including techniques for enhanced sheath fluid and other strategies which minimize stress on the sperm cells, and, potentially, a 2.9 percent sodium citrate sheath solution for bovine species and a hepes bovine gamete media for equine species. Improved collection systems and techniques for the process are described so that commercial application of sperms samples as well as the resulting animals may be achieved.